further consideration by the Examiner. Claim 55 has been amended to correct a typographical error. No new matter is entered by way of this amendment. Attached is a marked-up version captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE" showing the changes made to the claim. In addition, an Appendix of Pending Claims is attached for the Examiner's convenience.

Favorable consideration of the following comments as they relate to the outstanding rejections of the pending claims is respectfully requested for the reasons that follow.

**Rejections Under 35 U.S.C. § 102(b)**

Claims 47-53 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Meade et al., WO 95/15971 (hereinafter "Meade"). Applicants respectfully traverse.

It is well settled law that in order to anticipate a claim, a single prior art reference must expressly or inherently describe each and every element set forth in the claim. See Verdegaal Bros. v. Union Oil Co. of California, 2 USPQ2d 1051 (Fed. Cir. 1987). Moreover, "[t]he identical invention must be shown in as complete a detail as is contained in the claim" See M.P.E.P. 2131. As stated by the Federal Circuit, "for a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference." See In re Bond, 15 USPQ2d 1566.

Meade defines "nucleic acids" generally as including peptide nucleic acids (PNA). Meade, however, does not explicitly describe specific peptide nucleic acid modifications. In contrast, the present claims 47-50 recite modifications to the α-carbon, internal monomeric subunits, base, and backbone of the peptide nucleic acid, with exemplary modifications given in Examples 12 and 13, and Figures 31 and 32.

Moreover, claims 51-59 recite labels on specific chemical components of the PNA molecule, including labels comprising electron transfer moieties, fluorescent labels, chemiluminescent labels, haptens, proteins, and antigens. By comparison, labeled PNA molecules are not described with any particularity in Meade.

With regard to sufficiency of descriptions in the prior art reference for § 102 rejections, the M.P.E.P. § 2131.02 instructs the following:

> [A]nticipation can only be found if the classes of substituents are sufficiently limited or well delineated.

Hence, a general reference to a peptide nucleic acid in Meade does not sufficiently describe specific modifications within the scope of the claimed modified peptide nucleic acids. Thus,

Meade fails to anticipate the present claims. Accordingly, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 102(b) over Meade.

**Rejections Under 35 U.S.C. § 102(e)**

Claims 47-53 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Megerle et al., U.S. Patent No. 5,874,046 (hereinafter "Megerle"). Applicants respectfully traverse.

The arguments set forth above for the Meade reference applies equally well to Megerle. The disclosure in Megerle is similar to that of Meade, describing peptide nucleic acids generally but failing to provide specific descriptions of modified and labeled peptide nucleic acids. Consequently, Megerle fails to anticipate the present claims. Accordingly, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 102(e) over Megerle.

**CONCLUSIONS**

Applicants submit that the pending claims are in compliance with the requirements of patentability and are in condition for allowance. Accordingly, early notification of such allowance is earnestly solicited.

If after review the Examiner feels there are further unresolved issues or determined that prosecution of the above referenced application would benefit from a telephone interview, the Examiner is invited to contact the undersigned at (415) 781-1989.

Respectfully submitted,

DORSEY & WHITNEY LLP

Dated: 10/1/02

By: Robin M. Silva
Robin M. Silva, Reg. No. 38,304

Filed under 37 C.F.R. § 1.34(a)

Four Embarcadero Center
Suite 3400
San Francisco, California 94111-4187
Telephone: (415) 781-1989
Fax No. (415) 398-3249

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

55. (Amended) A composition according to claim 54 wherein said label is a [fluoroscent] fluorescent label.

## APPENDIX OF PENDING CLAIMS

47. A peptide nucleic acid with at least one chemical substituent covalently attached to the α-carbon of a monomeric subunit.

48. A peptide nucleic acid with at least one chemical substituent covalently attached to an internal monomeric subunit of the peptide nucleic acid.

49. A peptide nucleic acid according to claim 48 said attachment is to a base of said monomeric subunit.

50. A peptide nucleic acid according to claim 48 said attachment is to the backbone of said monomeric subunit.

51. A composition according to claim 48 or 49 wherein said chemical substituent is an electron transfer moiety.

52. A composition according to claim 51 wherein said electron transfer moiety is an electrode.

53. A composition according to claim 51 wherein said electron transfer moiety is a transition metal complex.

54. A composition according to claim 48 wherein said chemical substituent is a label.

55. (Amended) A composition according to claim 54 wherein said label is a [fluoroscent] <u>fluorescent</u> label.

56. A composition according to claim 54 wherein said label is a chemiluminescent label.

57. A composition according to claim 54 wherein said label is a hapten.

58. A composition according to claim 54 wherein said label is a protein.

59 A composition according to claim 54 wherein said label is a antigen.